

What is claimed is:

1. A method of raising an animal, comprising feeding said animal material comprising an element selected from the group consisting of Thraustochytriales, omega-3 highly unsaturated fatty acids extracted from Thraustochytriales, and mixtures thereof in an amount effective to increase the content of omega-3 highly unsaturated fatty acids in said animal.

2. The method of Claim 1, wherein said animal is a milk-producing animal.

3. The method of Claim 2, wherein said step of feeding is effective to increase the content of omega-3 highly unsaturated fatty acids in the milk of said animal.

4. The method of Claim 1, wherein said milk-producing animal is selected from the group consisting of cows, sheep, goats, bison, buffalo, antelope, deer and camels.

5. The method of Claim 1, wherein said animal is selected from the group consisting of cows, sheep and goats.

6. The method of Claim 1, wherein said material comprises microorganisms of the genus *Thraustochytrium* or *Schizochytrium* in whole cell form.

7. The method of Claim 6, wherein said microorganisms are selected from the group consisting of *Schizochytrium* having the identifying characteristics of ATCC Accession No. 20888 and mutant strains derived therefrom, *Schizochytrium*

5 having the identifying characteristics of ATCC Accession No.
20889 and mutant strains derived therefrom, *Thraustochytrium*
having the identifying characteristics of ATCC Accession No.
20890 and mutant strains derived therefrom, *Thraustochytrium*
having the identifying characteristics of ATCC Accession No.
10 20891 and mutant strains derived therefrom, and
Thraustochytrium having the identifying characteristics of
ATCC Accession No. 20892 and mutant strains derived therefrom.

8. The method of Claim 6, wherein said microorganisms
are in a form selected from the group consisting of a washed
biomass, an acidified biomass, an acidified pasteurized or
flash heated biomass and a dried biomass.

9. The method of Claim 1, wherein said
Thraustochytriales is produced by fermentation under nutrient-
limited conditions for an amount of time effective to increase
the omega-3 highly unsaturated fatty acids in said animal.

10. The method of Claim 9, wherein said fermentation
comprises limiting the concentration in the medium of a source
of assimilable nitrogen and harvesting said *Thraustochytriales*
during said nitrogen limitation.

11. The method of Claim 1, wherein said
Thraustochytriales is produced by fermentation in medium
comprising a microbial growth factor to provide sustained
growth of said *Thraustochytriales*.

12. The method of Claim 11, wherein said microbial growth factor comprises yeast extract.

13. The method of Claim 11, wherein said microbial growth factor comprises corn steep liquor.

14. The method of Claim 1, wherein said material further comprises a compound selected from the group consisting of BHT, BHA, TBHQ, ethoxyquin, beta-carotene, vitamin E and vitamin C.

15. A method, as claimed in Claim 1, wherein said material further comprises dry ground grain to lower the water content of the material.

5 16. A method, as claimed in Claim 1, wherein said animal is poultry.

17. A method, as claimed in Claim 16, wherein said animal is a chicken.

18. A method, as claimed in Claim 1, wherein said animal is cattle.

10 19. A method, as claimed in Claim 1, wherein said animal is seafood.

20. A method, as claimed in Claim 19, wherein said seafood is selected from the group consisting of fish, shrimp, shellfish, and mixtures thereof.

15 21. A method, as claimed in Claim 20, wherein said seafood is shrimp.

22. A method, as claimed in Claim 1, wherein said animal
is swine.

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23. A food product, comprising the milk of an animal, wherein said animal is raised by the method as claimed in Claim 1.

24. The food product of Claim 23, wherein said animal is selected from the group consisting of cows, sheep, goats, bison, buffalo, antelope, deer and camels.

26. The food product of Claim 23, wherein said animal is selected from the group consisting of cows, sheep and goats.

27. The food product of Claim 23, wherein said milk is consumable by humans.

28. The food product of Claim 23, wherein said food product is packaged under non-oxidizing conditions.

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